

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Confirmation No.: 4358  
 Masatsugu OGAWA Date: August 9, 2006  
 Serial No.: 10/528,507 Group Art Unit: 2627  
 Filed: March 18, 2005 Examiner: Crystal L. JONES  
 For: LASER POWER SELECTING METHOD, INFORMATION RECORDING  
 MEDIUM, AND INFORMATION RECORDING DEVICE

**VIA EFS-WEB**

Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450

**AMENDMENT/SUBMISSION**

Sir:

This is a response to the Office Action mailed May 17, 2006 in the above-identified application. Reconsideration of the application is respectfully requested.

**FEE CALCULATION**

Any additional fee required has been calculated as follows:

\_\_\_\_\_ If checked, "Small Entity" status is claimed.

NO. CLAIMS AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR			EXTRA PRESENT		RATE	ADDIT. FEE
TOTAL	21	MINUS	21	* =	0	X	(\$25 SE or \$50)	\$-0-
INDEP.	4	MINUS	4	** =	0	X	(\$100 or \$200)	\$-0-
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM						X	(\$180 or \$360)	\$-0-

\* not less than 20

\*\* not less than 3

TOTAL \$-0-

If any additional payment is required, a check which includes the calculated fee of \$ \_\_\_\_\_  
 (OFGS Check No. \_\_\_\_\_) is attached.

In the event the actual fee is greater than the payment submitted or is inadvertently not enclosed or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge the underpayment to Deposit Account No. 15-0700.

### **CONTINGENT EXTENSION REQUEST**

If this communication is filed after the shortened statutory time period had elapsed and no separate Petition is enclosed, the Commissioner of Patents and Trademarks is petitioned, under 37 C.F.R. § 1.136(a), to extend the time for filing a response to the outstanding Office Action by the number of months which will avoid abandonment under 37 C.F.R. § 1.135. The fee under 37 C.F.R. § 1.17 should be charged to our Deposit Account No. 15-0700.

### **SUMMARY OF AMENDMENTS**

1. ☐ If checked, an abstract (an amended abstract) is submitted herewith.
2. ☒ If checked, amendments to the drawings are submitted herewith.
3. ☐ If checked, amendment(s) to the specification are submitted herewith.
4. ☒ If checked, amendments to the claims are submitted herewith.

## **AMENDMENT TO THE DRAWINGS**

Figs. 1 and 2 have been amended. The attached sheet of formal drawings replaces the original sheet including Figs. 1 and 2.

## **LISTING OF THE CLAIMS**

**This listing of claims will replace all prior versions, and listings, of claims in the application:**

**1. (Canceled)**

**2. (Currently Amended)**      A laser power selecting method for selecting a laser power to record modulated codes on an information recording medium by use of a laser beam, comprising the steps of:

recording a predetermined signal pattern on the information recording medium;  
reproducing the predetermined signal pattern recorded, and calculating an asymmetry value from the predetermined signal pattern reproduced;

obtaining a change rate of the asymmetry value relative to a laser power; and  
selecting a laser power at which the change rate assumes a maximum value,

~~The laser power selecting method according to claim 1,~~ wherein the predetermined signal pattern is a combination pattern which combines sequentially a first signal having at least one mark and at least one space which are respectively longer in length than the shortest mark and shortest space among modulated codes to be recorded, and a second signal having a plurality of marks equal in length to the shortest mark among the modulated codes to be recorded and a plurality of spaces shorter in length than the shortest space among the modulated codes to be recorded.

**3. (Original)**      A laser power selecting method for selecting a laser power to record modulated codes on an information recording medium by use of a laser beam, the method comprising:

recording a predetermined signal pattern on an information recording medium;  
reproducing the predetermined signal pattern recorded; and selecting a laser power on the basis of the predetermined signal pattern reproduced, wherein:

the predetermined signal pattern is a combination pattern which combines sequentially a first signal having at least one mark and at least one space which are respectively longer in length than the shortest mark and shortest space among modulated codes to be recorded, and a second signal having a plurality of marks equal in length to the shortest mark among the modulated codes to be recorded and a plurality of spaces shorter in length than the shortest space among the modulated codes to be recorded.

4.     **(Original)**     The laser power selecting method according to claim 3, wherein each of mark length and space length of the modulated codes to be recorded is expressed by  $nT$  where  $n$  is 3, 4, 5, 6, 7, 8, 9, 10, 11, or 14 and  $T$  is a channel clock cycle.

5.     **(Original)**     The laser power selecting method according to claim 4, wherein the first signal has mark and space lengths of  $10T$ ,  $11T$ , or  $14T$ .

6.     **(Previously Presented)**     The laser power selecting method according to claim 4, wherein the second signal has a mark length of  $3T$  and a space length of  $2T$ .

7.     **(Previously Presented)**     The laser power selecting method according to claim 3, wherein in the step of selecting the laser power, an asymmetry value is calculated from the predetermined signal pattern reproduced, and a laser power is selected on the basis of the asymmetry value.

8.     **(Original)**     The laser power selecting method according to claim 7, wherein in the step of selecting the laser power, a change rate of the asymmetry value relative to a laser power is obtained from the asymmetry value, and a laser power at which the change rate assumes a maximum value is selected.

9.     **(Previously Presented)**     An information recording medium on which information is recorded by use of the method according to claim 3, wherein information as to

said space shorter than the shortest space length is recorded on the information recording medium.

**10. (Original)** The information recording medium according to claim 9, wherein information as to whether or not the laser power selecting method is applicable is recorded on the information recording medium.

**11. (Currently Amended)** An information recording medium on which information is recorded by use of the method according to claim ~~1~~2, wherein information as to whether or not the laser power selecting method is applicable is recorded on the information recording medium.

**12. (Canceled)**

**13. (Currently Amended)** An information recording device which records modulated codes on an information recording medium by use of a laser beam, ~~characterized by~~ comprising:

recording means for recording a combination signal pattern on an information recording medium, the signal pattern combines sequentially a first signal having at least one mark and at least one space which are respectively longer in length than shortest mark and shortest space among modulated codes to be recorded, and a second signal having a plurality of marks equal in length to the shortest mark among the modulated codes to be recorded and a plurality of spaces shorter than the shortest space among the modulated codes to be recorded;

reproducing means for reproducing the combination signal pattern recorded by the recording means; and

laser power adjusting means for selecting a laser power on the basis of the combination signal pattern reproduced by the reproducing means.

**14. (Original)** The information recording device according to claim 13, wherein

each of mark length and space length of the modulated codes to be recorded is expressed by  $nT$  where  $n$  is 3, 4, 5, 6, 7, 8, 9, 10, 11, or 14 and  $T$  is a channel clock cycle.

**15. (Original)** The information recording device according to claim 14, wherein the first signal has mark and space lengths of  $10T$ ,  $11T$ , or  $14T$ .

**16. (Previously Presented)** The information recording device according to claim 14, wherein the second signal has a mark length of  $3T$  and a space length of  $2T$ .

**17. (Previously Presented)** The information recording device according to claim 13, wherein the laser power adjusting means calculates an asymmetry value from the reproduced signal, and selects a laser power on the basis of the asymmetry value.

**18. (Original)** The information recording device according to claim 17, wherein the laser power adjusting means obtains a change rate of the asymmetry value relative to a laser power from the calculated asymmetry value, to select a laser power at which the change rate assumes a maximum value.

**19. (Original)** An information recording device which records modulated codes on the information recording medium according to claim 9, further comprising information reproducing means for reading information as to a space length shorter than the shortest space length and a laser power adjusting means for selecting a laser power on the basis of the information read.

**20. (Previously Presented)** The information recording device according to claim 19, wherein when modulated codes are recorded on the information recording medium, and wherein information as to whether or not the laser power selecting method is applicable is recorded on the information recording medium, the information reproducing means reads information as to whether or not the laser power selecting method is applicable, and the laser

power adjusting means determines whether one of a plurality of laser power selecting methods should be adopted on the basis of the information read.

**21. (Previously Presented)** The information recording device according to claim 19, further comprising a memory device which stores therein the information as to the space length shorter than the shortest space length.



## REMARKS/ARGUMENTS

Applicant responds herein to the Office Action dated May 17, 2006.

Applicant's attorneys appreciate the Examiner's thorough search and examination of the present patent application, allowance of claims 3-10 and 13-21, and the indication that claim 2 is allowable if rewritten in independent form.

Claims 1-21 are pending in this application. Claims 3-10 and 13-21 were allowed, claims 1, 11 and 12 were rejected and claim 2 was objected to.

In response to the Examiner's objection, Figures 1 and 2 were amended to include the "Prior Art" designation legend.

Claims 1, 11, and 12 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Application Publication No. 20020105874 to Matsumoto ("Matsumoto").

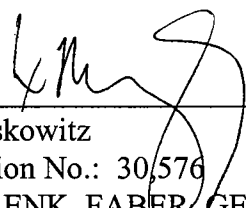
Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims. Claim 2 has been rendered in independent form, and claim 11 now depends on claim 2.

Claims 1 and 12 were canceled.

Accordingly, the Examiner is respectfully requested to reconsider the application, add claims 2 and 11 to the allowed claims and pass this case to issue.

THIS CORRESPONDENCE IS BEING  
SUBMITTED ELECTRONICALLY  
THROUGH THE PATENT AND  
TRADEMARK OFFICE EFS FILING SYSTEM  
on August 9, 2006.

Respectfully submitted,



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Max Moskowitz  
Registration No.: 30,576  
OSTROLENK, FABER, GERB & SOFFEN, LLP  
1180 Avenue of the Americas  
New York, New York 10036-8403  
Telephone: (212) 382-0700

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